SHCHUKAREV, S.A.; BALICHEVA, T.G.; BORCHA, K.Ya.; KUKHAREVA, M.A.

Infrared absorption spectra of anhydrous sulfuric and orthophosphoric acids. Vest. LGU 19 no.4:147-151 '64. (MIRA 17:3)

SHCHUKAREV, S.A.; LOBANEVA, O.A.; KONONOVA, M.A.

Formation constants of complex palladium (II) iodides. Vest. LGU 20 no.4:149-150 '65. (MIRA 18:4)

DANILOV, S.N., glav. red.; ZAKHAROVA, A.I., red.; ARBUZOV, A.Ye., red.; VVEDENSKIY, A.A., red.; VENUS-DANILOVA, E.D., red.; IOFFE, I.S., red.; KAVERZNEVA, Ye.D., red.; LUTSENKO, I.F., red.; MISHCHENKO, K.P., red.; NEMTSEV, M.S., red.; PETROV, A.A., red.; FREYDLINA, R.Kh., red.; SHEMYAKIN, M.M., red.; SHCHUKAREV, S.A., red.; YUR'YEV, Yu.K., red.

[Problems of organic synthesis] Problemy organicheskogo sinteza. Moskva, Nauka, 1965. 323 p. (MIRA 18:8)

[illegible]

Phase of [illegible] of solid [illegible] in [illegible] of manganese, iron, cobalt, copper, and zinc. [illegible] 20 no.15:145-147 '65. (MIRA 18:9)

SHLAPINTOKH, V.Ya., [illegible], T.G., [illegible], Yu.A., [illegible], Yu.Ya.

Infrared spectra of binary systems formed by [illegible] and with acetic and chloroacetic acids. Zhur.prikl.khim. 10 no.12:2723-2727 D '65. (MIRA 19:1)

1. Leningradskiy gosudarstvennyy universitet i Kiyevskiy politekhnicheskiy institut.

[illegible]/0208/0214

ACC NR: AT6027148

$[HfO_2] \rightarrow (HfO) + (O)$, $\Delta H_0^\circ = 311.7 \pm 1.5$ kcal/mole, $D_0^\circ = 8.18$ eV
$[HfO_2] \rightarrow (HfO_2)$, $\Delta H_0^\circ = 206 \pm 4$ kcal/mole, $D_0^\circ = 14.1$ eV.

$[ThO_2] \rightarrow (ThO) + (O)$, $\Delta H_0^\circ = 338.0 \pm 1$ kcal/mole, $D_0^\circ = 9.15$ eV,
$[ThO_2] \rightarrow (ThO_2)$, $\Delta H_0^\circ = 168.2 \pm 0.5$ kcal/mole, $D_0^\circ = 16.5$ eV.

The following equations were obtained for the vapor pressures:

for ZrO, $\log p = -35100/T + 10.73$ mm Hg,
for ZrO_2, $\log p = -37100/T + 11.04$ mm Hg;
for HfO, $\log p = -37150/T + 11.27$ mm Hg,
for HfO_2, $\log p = -42700/T + 10.76$ mm Hg;
for ThO, $\log p = -33300/T + 9.98$ mm Hg,
for ThO_2, $\log p = -35180/T + 10.75$ mm Hg.

Orig. art. has: 6 figures, 3 tables and 7 formulas.

SUB CODE: 07/ SUBM DATE: 25Nov64/ ORIG REF: 005/ OTH REF: 013

Card 2/2

ACC NR: AT6017043 (A) SOURCE CODE: UR/0078/66/011/002/0233/0236

AUTHOR: Shchukarev, S. A.; Semenov, G. A.; Frantseva, K. Ye.

ORG: Leningrad State Order of Lenin University im. A. A. Zhdanov (Leningradskiy gosudarstvennyy ordena Lenina universitet)

TITLE: Thermodynamic study of evaporation of the lower oxides of niobium

SOURCE: Zhurnal neorganicheskoy khimii, v. 11, no. 2, 1966, 233-236

TOPIC TAGS: niobium compound, thermodynamic analysis, mass spectrometry, x ray analysis, heat of dissociation, EVAPORATION

ABSTRACT: This is a continuation of the previous works of the authors on the evaporation of Nb oxides (Zh. neorg. khimii, 4, 2638, 1959; Izv. vysh. uchebn. zaved. Khim. i khim. tekhnologiya, 5, 691, 1962; and Dokl. AN SSSR, 145, 119, 1962) attempting to evaluate quantitatively the parameters of the processes accompanying the evaporation of NbO and NbO_2 and consisting of measuring the vapor pressure by the effusion method with simultaneous mass-spectrometric analysis of the products of evaporation. The study of the evaporation of NbO at 1600-2200C under equilibrium conditions substantiated the conclusions of the previous works regarding the presence of NbO and NbO_2 molecules in the gas phase. At temperatures of >2300C Nb^+ ions were observed in the effusion chamber after complete disappearance of the ion currents of NbO_2^+ and NbO^+. The heat of sublima-

Card 1/3 UDC: 546.882.2/.5-31 : 536.7

ACC NR: AP6019043

tion of Nb (ΔH_{298} o = 173 kcal/g-at), which agreed well with the literature data (171.3 kcal/g-at), was determined from the angular coefficient of the curve log(IT . T) = f(1/T) plotted after measuring the dependence of the intesity of Nb^+ on temperature. X-ray phase analysis of the residue left after evaporation detected the presence of NbO and Nb and no NbO_2 in the solid phase. Therefore, the evaporation of NbO consisted of the following reactions: $NbO_{solid,liquid} \rightarrow (NbO)$ and $2NbO_{solid,liquid} \rightarrow (NbO_2) + [Nb]$. The part of each reaction in the evaporation of NbO was determined as $\sigma\gamma_{NbO} : \sigma\gamma_{NbO_2} = 2 : 1$. During evaporation of NbO_2 at 1500 - 2100C, the mass spectrum indicated the presence of predominant NbO_2 and subordinate NbO in amounts varying from fractions of 1% at 1500C to 7-8% at 2200C. The x-ray phase analysis detected only NbO_2 in the solid phase. It was thus concluded that two reactions were present during the evaporation of NbO: $NbO_{2\ solid,liquid} \rightarrow (NbO_2)$ and $NbO_{2\ solid,liquid} \rightarrow (NbO) + (O)$. The vapor pressures of the gas components of these two reactions were measured. The results agreed (with 5% accuracy) with data from previous investigations. The heat of sublimation of the NbO and NbO_2 molecules and the energies of their dissociation were calculated for NbO_2 as $\Delta H^0_{298} = -59.5 \pm 1$ kcal/mole and $D^0_0 = 14.8 \pm 0.1$ ev and for NbO as $\Delta H^0_{298} = 49.5 \pm 1$ kcal/mole and $D^0_0 = 7.8 \pm 0.1$ ev. The melting heats of NbO_2 and NbO were determined to be 18 and 22 kcal/mole, respectively. The equation of free energy of the gaseous NbO_2 and NbO from the elements can be written as

$$\Delta F^0_{(NbO_2)} = -54300 - 4{,}5T; \quad \Delta F^0_{(NbO)} = 46500 - 23{,}4T$$

ACC NR: AT5017043

The authors thank L. V. Gurovich and G. A. Khachkurunova for the calculation of the thermodynamic potentials of condensed and gaseous MoO_2 and MoO. Orig. art. has: 3 fig., 6 formulas, and 1 table.

SUB CODE: 07/ SUBM DATE: 30Jun64/ ORIG REF: 011/ OTH REF: 006

Card 3/3

GOROSHNIKOV, S.I.; [illegible], [illegible]; [illegible], G.V.; [illegible], Ye.Ya.; SKOLAROVSKAYA, L.A.; [illegible], A.I.; [illegible], L.A.; YURK, Yu.Yu., doktor geol.-miner. nauk, prof.; [illegible], L.D.; SERDYUK, S.F., red.

[Granitoid rocks in the Azov Sea region and prospects for using them in the ceramic and glass industries] Granitoidnye porody Priazov'ia i perspektivy ikh ispol'zovaniia v keramicheskom i stekol'nom proizvodstvakh. Pod red. Iu.Iu. Iurka. Kiev, Naukova dumka, 1964. 142 p. (MIRA 17:9)

1. Akademiya nauk URSR. Kiev. Instytut mineral'nykh resursiv.

SHCHUKAREVA, L. A

Heat standards. A. N. SHCHUKAREV AND L. A. SHCHUKAREVA. *J. Phys. Chem.* (U. S. S. R.) 3, 190-74(1932). Values of Q were obtained as follows: salicylic acid (Merck) 5238, same after standing 1 month 5352, salicylosalicylic acid 5455, anthracene 9444, same after 1 year 9330, phenanthrene 9480, the same after 5 months 9457, camphor 9243, benzoic acid 6327. F. H. RATHMANN

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SHCHUKAREVA, L. A.

(2) 3

Improving the properties of sanitary-ware slips by means of a combination peptizer. G. V. KUKOLEV AND L. A. SHCHUKAREVA. *Steklo i Keram.*, 10 [7] 15-16 (1953).—The combination peptizer consisted of a water-glass extract of humic acids from peat or brown coal, in which the ratio of humic acids to Na_2O was 1:4. In comparison with a mixture of water glass and soda, it reduces the moisture of sanitary-ware slips by 2 to 3%, decreases the amount of alkali in the mix, reduces consumption of water glass, increases the life of gypsum molds, and accelerates considerably (50%) the formation of the shape in the molds. B.Z.K.

Long-lasting patterns containing caustic magnesite for gypsum molds. M. A. MATVEEV. *Steklo i Keram.*, 10 [11] 16-18 (1953).—The mix should contain caustic magnesite 60, finely ground sand (marshallite) 30 to 34, and powdered asbestos 6 to 10%. Residues of magnesite, sand, and asbestos should not exceed 10, 5, and 3% on sieves having 4900, 6400, and 900 openings per cm.^{2}. Reduction of the specific gravity of magnesite from 1.3 to 1.2 decreases the setting time from 6 to 3 hr. but lowers the strength almost half. Optimum drying time is 3 hr. at 100°. Strength increases during storage. B.Z.K.

KUKOLEV, G.V.; SHCHUKAREVA, L.A.

Studying properties of hydrated kaoline films in relation to pressure. Trudy KhPI 31 no.1:5-9 '59. (MIRA 13:10)
(Kaolin--Testing)

SHCHUKIN, Mikhail Mikhaylovich; ZAKIN, Ya.Kh., kand.tekhn.nauk, retsenzent; IVANOV, G.A., kand.tekhn.nauk, red.; SIMONOVSKIY, N.Z., red.; SPERANSKAYA, O.V., tekhn.red.

[Coupling systems for automobiles and tractors; design, theory, and calculation] Stsepnye ustroistva avtomobilei i tiagachei; konstruktsiia, teoriia i raschet. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit.lit-ry, 1961. 206 p. (MIRA 14:4)

(Couplings) (Automobile trains)

SHCHUKAREVA, N. K.

"Diagnosis of Stomach Cancer by Flushing With Water (Histological Section Method)." Cand Med Sci, Joint Council of a Group of Leningrad Institues, Acad Med Sci USSR, Leningrad, 1953. (RZhBiol, No 2, Sep 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

SO: Sum. No. 481, 5 May 55

SHCHUKAREVA, N.K., kandidat meditsinskikh nauk (Leningrad, ul. Krasnogo Tekstil'shchika, d. 3/10 kv.5)

Evaluation of clinical groups of patients with cancer. Vop.onk. 1 no.3:56-59 '55. (MLRA 10:1)

1. Iz otdela nauchnogo ucheta Instituta onkologii AMN SSSR (direktor chlen-korrespondent AMN SSSR prof. A.I.Serebrov, zaveduyushchiy otdelom - starshiy nauchnyy sotrudnik A.V.Chaklin)

(NEOPLASMS,
grouping of patients with various forms of cancer)

SHCHUKAREVA, N.K. (Leningrad, ul, Krasnykh tekstil'shchikov, d.3/10 kv.5)

Soft tissue fibrosarcoma of the leg stump with regional metastasis [with summary in English] Vop.onk. 2 no.3:361-363 '56. (MLRA 9:10)

1. Iz 2-go khirurgicheskogo otdeleniya (zav. - prof. A.I.Rakov) Instituta onkologii AMN SSSR (dir. - prof. A.I.Serebrov)

(AMPUTATION STUMPS, neoplasms
leg., fibrosarcoma of soft tissue with regional metastasis, surg.)

(FIBROSARCOMA
soft tissue of amputation stump of leg with regional metastases, surg.)

(LEG, neoplasms
soft tissue fibrosarcoma of amputation stimp, with regional metastases, surg.)

RAKOV, A.I.; SHEMYAKINA, T.V.; SHCHUKAREVA, N.K.; IVANOV, G.G.

Gastric function in precancerous stages and cancer of the stomach [with summary in English] Vop. onk. 3 no.1:42-49 '57 (MLRA 10:4)

1. Iz I khirurgicheskoy kliniki (zav.-prof. S.A. Kholdin), iz II khirurgicheskoy kliniki (zav.-prof. A.I. Rakov) i kinicheskoy laboratorii Instituta onkologii AMN SSSR (dir.-chl.-korr. AMN SSSR prof. A.I. Serebrov) Adres avtorov: Leningrad, 129,2-ya Berezovaya alleya, d. 3, Institut onkologii AMN SSSR.

(STOMACH NEOPLASMS, physiol.
gastric secretion during cancer & in precancerous stages)
(GASTRIC JUICE, physiol in various dis.
secretion during cancer & in precancerous stages)

SHCHUKAREVA, N.K. (Leningrad, 124, ul. Krasnogo Tekstil'shchika, d.3/10, kv.5)

Intrapulmonary hamartoma. Vop.onk. 5 no.11:609-613 '59. (MIRA 14:7)

1. Iz II khirurgicheskogo otdeleniya (zav. - prof. A.I.Rakov) Instituta onkologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.I.Serebrov).

(LUNGS--TUMORS)

SHCHUKAREVA, N.K.

Case of surgical treatment of solitary metastasis of cancer of the rectum into the lung. Vop. onk. 6 no. 10:86-90 O '60. (MIRA 14:1)

(RECTUM—CANCER) (LUNGS—CANCER)

SHCHUKAREVA, N.K. (Leningrad, ul.Krasnykh tekstil'shchikov, 3/10.kv.5)

Pulmonary plasmocytoma. Grud. khir. 1 no.4:91-94 Jl-Ag '59. (MIRA 15:3)

1. Iz II khirurgicheskogo otdeleniya (zav. - prof. A.I. Rakov) Instituta onkologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.I. Serebrov).
(LUNGS--TUMORS)

SHCHUKAREVA, N. K. (Leningrad, C-124, ul. Krasnykh Tekstil'shchikov, d. 3/10, kv. 5); VAGNER, R. I.

Prescalene biopsy in cancer of the lung. Grud. khir. 4 no.3: 22-26 My-Je '62. (MIRA 15:7)

1. Iz 2-go khirurgicheskogo otdeleniya (zav. - chlen-korrespondent AMN SSSR prof. A. I. Rakov) Instituta onkologii (dir. - deystvitel'nyy chlen AMN SSSR prof. A. I. Serebrov) AMN SSSR.

(LUNGS--CANCER) (CHEST--BIOPSY)

SHCHUKAREVA, N. K.

Clinical anatomical characteristics of bronchial cancer with a branching form of growth. Vop. onk. 8 no.5:61-72 '62. (MIRA 15:7)

1. Iz 2-go khirurgicheskogo otdeleniya (zav. - chl. korr. AMN SSSR, prof. A. I. Rakov) Instituta onkologii AMN SSSR (dir. - deystv. chl. AMN SSSR, prof. A. I. Serebrov)

(BRONCHI--CANCER)

SOKOLOVA, N.M.; KASATKINA, N.M.; SHCHUKAREVA, N.K.; LEVKOVICH, Yu.I.

Laboratory diagnosis of candidiasis in patients with malignant tumors. Vop. onk. 9 no.8:49-54 '63 (MIRA 17:4)

1. Iz kliniki-diagnosticheskoy laboratorii (zav. - dotsent I.F. Grekh) Instituta onkologii AMN SSSR (direktor- deystvitel'nyy chlen AMN SSSR prof. A.I. Serebrov. Adres avtorov: Leningrad, P-129, 2-ya Berezovaya alleya, 3, Institut onkologii AMN SSSR.

SHCHUKAREVA, N.K. (Leningrad, S-124, ul. Krasnykh tekstil'shchikov, d.3/10, kv.5)

Nature of the growth and metastatic spreading of pulmonary cancer to regional lymph nodes. Vop. onk. 10 no.9:8-16 '64. (MIRA 18:4)

1. Iz II khirurgicheskogo otdeleniya (zav. - chlen-korrespondent AMN SSSR prof. A.I.Rakov) Instituta onkologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.I.Serebrov).

SHCHUKAREVA, N.K. (Leningrad, S-124, ul. Krasnogo Tekstil'shchika, d.3/10, kv.5)

Polypoid cancer of the lung. Vop. onk. 10 no.5:24-31 '64. (MIRA 17:8)

1. Iz II khirurgicheskogo otdeleniya (zav. - chlen-korrespondent AMN SSSR prof. A.I.Rakov) Instituta onkologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.I.Serebrov).

[illegible] A. [illegible]

Yeast-like fungi of the genus Candida in patients with malignant tumors. Vop. onk. 11 n.[illegible]-5. (MIRA 18:8)

1. Iz kliniko-diagnosticheskoy laboratorii (zav. - [illegible]) [illegible] Instituta onkologii AMN SSSR (direktor - deystvitel'nyy chlen AMN SSSR prof. A.I.Serebrov).

SHUMKOVA, A.K.

Lymphosarcoma of the lungs. Probl. gemat. i perel. krovi 9 no.[illegible] '64. (MIRA 18:2)

1. Kafedra khirurgicheskoy [illegible] (nach. - chlen-korrespondent AMN SSSR prof. A.I. Bakov) Instituta onkologii (Dir.-deystvitel'nyy chlen AMN SSSR prof. A.I. Serebrov) AMN SSSR, Leningrad.

SOKOLOVA, N.M.; SHCHUKAREVA, N.K.; LEVITSKAIA, N.A.; KARASIK, B.N.

Serological diagnosis of candidiasis in patients with malignant neoplasms. Vop. onk. [illegible] n.3 52-54 [illegible].

(MIRA 18:11)

1. Iz kliniko-diagnosticheskoy laboratorii (zav. - dotsent I.F.Grekh) Instituta onkologii AMN SSSR (direktor - deystvitel'nyy chlen AMN SSSR - prof. A.I.Serebrov).

[illegible] V.V.

Clinical and morphological characteristics of cancer of the peripheral (small) bronchi. Vop.onk. 11:7 15 '65. (MIRA 19:1)

1. Iz kafedry onkologii (zav. - chlen-korrespondent AMN SSSR prof. [illegible]) Gosudarstvennogo instituta dlya usovershenstvovaniya vrachey im. S.M.Kirova i Instituta onkologii AMN SSSR (direktor - deystvitel'nyy chlen AMN SSSR zasluzhennyy deyatel' nauki RSFSR [illegible]).

SHCHUKAREVA, N.K., kand.med.nauk (Leningrad, ul. Krasnykh tekstil'shchikov, d.3/10 kv.5)

Coelomic cyst of the mediastinum. Vest.khir. 83 no.9:113-116 S '59. (MIRA 13:2)

1. Iz 2-go khirurgicheskogo otdeleniya (zaveduyushchiy - prof. A.I. Rakov) Instituta onkologii AMN SSSR.
(MEDIASTINUM, neoplasms)
(MESOTHELIOMA, case reports)

SHCHUKIN, A.A.; SHCHUKIN, A.A., mladshiy.

Comparison of gas and electric heating systems in industrial furnaces. Gaz.prom. 5 no.6:20-28 Je '60. (MIRA 13:6)

(Furances) (Gas as fuel) (Heating)

SHCHUKIN, A. A.

USSR/Engineering
Furnaces, Gas
Furnaces, Oil

Jul 48

"Conversion of Heating Forge Furnaces From Fuel Oil to Low Calorie Producer Gas," A. A. Shchukin, Cand Tech Sci, 4 pp

"Za Ekonomiyu Topliva" No 7

Explains advantages of scheme, and describes how it is carried out. Gives trial figures for installation.

[redacted]

16/49T59

SHCHUKIN, A. A.

PA 43/49T45

USSR/Engineering
Furnaces
Heating

Oct 48

"Operation of Gas Jets for Heating Gas and Air," A. A. Shchukin, Cand Tech Sci, 4 pp

"Za Ekonomiyu Topliva" Vol V, No 10

Discusses efficiency of using high-pressure jets in furnaces, with preheating of generating gas and air.

[redacted]

43/49T45

SHCHUKIN, A.A.

ANDREYEV,S.Ye.; BOKIY,B.V.; GORODETSKIY,P.I.; GREYVER,N.S.; SHCHUKIN,A.A.
GERONT'YEV,V.I.; SKOCHINSKIY,A.A.; TERPIGOREV,A.M.; SHEVYAKOV,L.D.;
SPIVAKOVSKIY,A.A.; VERKHOVSKIY,I.M.; VOROHKOV,I.M.; YELANCHIK,G.M.;
KASHIN,N.V.; SLOBODKIN,M.I.; GUZENKOV,P.G.; ZEMSKOV,V.D.; NOVIKOV,F.S.
OSETSKIY,V.M.; SOSUNOV,G.I.; YASYUKEVICH,S.M.; KHAN,G.A.; POPOV,V.M.

In memory of Professor Levenson. Gor.zhur. no.9:60 S '55.
(MIRA 8:8)

(Levenson, Lev Borisovich, 1878-1955)

LEBEDEV, Panteleymon Dmitriyevich; SHCHUKIN, Aleksey Aleksandrovich; MURZAKOV, V.V., redaktor; FRIDKIN, A.M., tekhnicheskiy redaktor

[Industrial heat engineering] Promyshlennaia teplotekhnika. Izd. 2-oe, perer. Moskva, Gos. energ. izd-vo, 1956. 384 p. (MLRA 9:9)
(Heat engineering)

SHCHUKIN, A., dots., kand.tekhn.nauk (Moskva)

"Use of gas in industrial furnaces and boiler units in Moscow and Moscow Province (materials of the scientific and technological conference in Moscow)." Reviewed by A.Shchukin. NTO no.11:63 N '59. (MIRA 13:4)
(Gas, Natural)

SHCHUKIN, A.A.; SHCHUKIN, A.A., mladshiy.

Comparison of gas and electric heating systems in industrial furnaces. Gaz.prom. 5 no.6:20-28 Je '60. (MIRA 13:6)

(Furances) (Gas as fuel) (Heating)

BAKHMACHEVSKIY, Boris Ivanovich; [illegible] Gustavovich; [illegible], Georgiy Pavlovich; [illegible], Igor' Nikolayevich; SHCHUKIN, Aleksey Aleksandrovich; [illegible] T.V., red.izd-va; DOBUZHINSKAYA, L.V., tekhn. red.

[Heat engineering; course in general heat engineering] Teplotekhnika; kurs obshchei teplotekhniki. [By] B.I.Bakhmachevskii i dr. Moskva, Metallurgizdat, 1963. 605 p. (MIRA 17:2)

BAKHMACHEVSKIY, B.I.; ZAKH, R.G.; SHCHUKIN, A.A.

[General heat engineering; instructions on methods and test assignments for students of other than heat engineering professions of technical correspondence schools of higher learning] Obshchaia teplotekhnika; metodicheskie ukazaniia i kontrol'nye zadaniia dlia studentov neteplotekhnicheskikh spetsial'nostei zaochnykh vysshikh tekhnicheskikh uchebnykh zavedenii. Izd.5. Moskva, Vysshaia shkola, 1961. 117 p. (MIRA 17:9)

BOROVSKIKH, Afanasiy Andreyevich; SHCHUKIN, Aleksandr Grigor'yevich; VSHIVKOV, F.P., inzh., retsenzent; SHELEKHOV, V.A., inzh., red.; DUGINA, N.A., tekhn. red.

[Operator of a hydraulic press]Mashinist gidravlicheskogo pressa. Moskva, Mashgiz, 1962. 111 p. (MIRA 15:10)
(Hydraulic presses)

SHCHUKIN, Aleksey Grigor'yevich; SHKOL'NIKOV, Boris Yakovlevich; ZAV'YALOVA, A.N., red.; MOZGALEVSKAYA, S.A., mlad. red.; PONOMAREVA, A.A., tekhn. red ; GERASIMOVA, Ye.S., tekhn. red.

[Technical, industrial and financial plan of enterprises of local importance] Tekhpromfinplan predpriiatii mestnogo znacheniia. Moskva, Ekonomizdat, 1963. 295 p. (MIRA 16:11)

(Industrial management)

SHCHUKIN, Aleksey Grigor'yevich; SHKOL'NIKOV, Boris Yakovlevich; ZAV'YALOVA, A.N., red.; MOZGALEVSKAYA, S.A., mlad. red.; PONOMAREVA, A.A., tekhn. red.; GERASIMOVA, Ye.S., tekhn. red.

[The technical, industrial and financial plan of the enterprises of local significance] Tekhpromfinplan predpriiatii mestnogo znacheniia. Moskva, Ekonomizdat, 1963. 295 p. (MIRA 17:4)

[illegible], A.I.; [illegible], [illegible]

Automatic control of electric drives. Avtomaticheskoe upravlenie elektroprivodami. Moskva, Et.i., 1961, 232 p. (MIRA 19:1)

SHCHUKIN, A.I., kandidat tekhnicheskikh nauk; FEL'DBAUM, A.A., kandidat tekhnicheskikh nauk.

Apparatus for precision control of dimensions by the induction method. Vest.elektroprom. 18 no.5:22-24 '47. (MLRA 6:12)
(Electric controllers)

1. Vsesoyuznyy elektrotekhnicheskiy institut.

124-1957-2-1515

Translation from Referativnyy zhurnal, Mekhanika, 1957, Nr 2, p 12 (USSR)

AUTHOR Shchukin, A. I.

TITLE The Generalized Formulas of the Transfer Functions and the Structural Arrangement of Multi-Contoured Servo and Regulating Systems (Obobshchennyye formuly peredatochnykh funktsiy i strukturnyye skhemy mnogokonturnykh sledyashchikh i reguliruyemykh sistem)

PERIODICAL Tr Vses zaoch energ. in-ta, 1955, Nr 6, pp 27-35

ABSTRACT Bibliographic entry

1. Servomechanisms 2. Mathematics 3. Control systems

Card 1/1

KONEV, Yuriy Ivanovich; SHCHUKIN, A.I., redaktor; KUCHUMOVA, K.I., redaktor; KORUZEV, N.N., tekhnicheskiy redaktor

[Crystal triodes in automatic control apparatus] Kristallicheskie triody v ustroistvakh avtomaticheskogo upravleniia. Moskva, Izd-vo "Sovetskoe radio," 1957. 159 p. (MLRA 10:8)
(Transistors) (Auromatic control)

KARPOV, Aleksey Vladimirovich; RULEV, V.V., inzh., retsenzent; SHCHUKIN, A.I., kand.tekhn.nauk, retsenzent; MASLOVA, Ye.F., red.; KISELEVA, A.A., tekhn.red.

[Electric equipment for refrigerators; large-current electric units] Elektrooborudovanie kholodil'nikov; elektroustanovki sil'nogo toka. Moskva, Gos.izd-vo torg.lit-ry, 1960. 207 p. (MIRA 13:7)

(Refrigeration and refrigerating machinery)

KONEV, Yu.I.; SOTSKIY, B.S., prof., doktor tekhn.nauk, retsenzent; KUCHUMOVA, K.I., red.; SHCHUKIN, A.I., red.; SMUROV, B.V., tekhn.red.

[Application of transistors in automatic control] Poluprovodnikovye triody v avtomatike. Moskva, Izd-vo "Sovetskoe radio," 1960. 446 p. (MIRA 13:11)
(Transistors) (Automatic control)

PETROV, I.I., doktor tekhn.nauk, prof.; SHCHUKIN, A.I., kand.tekhn.nauk, dots.; ZUSMAN, V.G., kand.tekhn.nauk, dots., ARZAMASTSEV, P.S., kand.tekhn.nauk, dots.; PANTYUSHEV, G.S., kand.tekhn.nauk; NEVRAYEV, V.Yu., kand.tekhn.nauk; POPOV, G.A., dots.

"Principles of electric driving" by A.T. Golovan. Reviewed by I.I. Petrov and others. Elektrichestvo no.8:93-95 Ag '60. (MIRA 13:8)

(Electric driving)
(Golovan, A.T.)

PETROV, I.K.; SHCHUKIN, A.I.

Instruments for measuring the moisture content of various products and materials. Priborostroenie no.9:13-16 S '60.
(MIRA 13:9)

(Moisture--Measurement)

SHCHUKIN, A.I.; YAKOBISHVILI, A.Z.

Electronic apparatus for determining the moisture content of stiff leather. Kozh.-obuv.prom. 2 no.6:33-35 Je '60. (MIRA 13:9)

(Moisture--Measurement) (Leather)

BANDZELADZE, A.Ye.; SHCHUKIN, A.I.

PVUK-1 electronic moisture gauge for coal. Ugol' 36 no.9:34-35 S '61. (MIRA 14:9)
(Coal--Testing) (Gauges moisture--Measurement)

ACCESSION NR: AT4013980 S/3070/63/000/000/0098/0100

AUTHOR: Fedorov, Yu. N.; Serebryakov, A. G.; Kostry*gina, N. A.; Tsy*ro, O. L.; Shchukin, A. I.

TITLE: The semi-automatic ultrasonic apparatus UKL-2 for inspecting sheet metal for internal defects

SOURCE: Novy*ye mashiny* i pribory* dlya ispy*taniya metallov. Sbornik statey. Moscow, Metallurgizdat, 1963, 98-100

TOPIC TAGS: sheet metal inspection, ultrasonic inspection, piezoelectric transducer, metal defect, metal sheet

ABSTRACT: For detection of internal defects (laminations, non-metallic inclusions) in sheet metal, a semi-automatic immersed ultrasonic inspection device has been developed, in which several pairs of transmitting and receiving piezoelectric transducers are used. The transmitter 4 and receiver 3 are placed symmetrically on opposite sides of the test sheet 1. (See Fig. 1 of the Enclosure.) Water is used as the immersion liquid in the test tank 1. With the aid of power-driven threaded spindles, the transmitter and receiver can be moved horizontally back and forth along the inspected sheet with a speed of 6.8 m per minute. During this movement, the sheet is stationary. At the end of each passage, the transducers

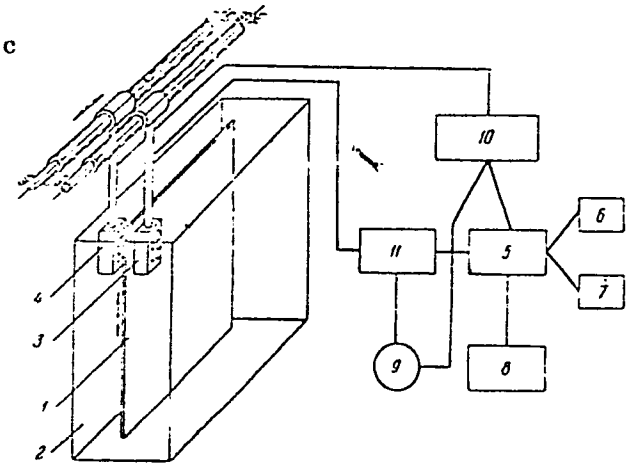
ACCESSION NR: AT4013980

are arrested, and the sheet is raised by the width covered by inspection during one passage. At the detection of a defect, a sonic signal 6, a light signal 7, and an automatic stopping device are triggered simultaneously. The approximate coordinates of the defect can be determined by taking readings on scales. For more accurate locating of the defect, a manual drive and an electron beam indicator 9 can be used. The drive mechanisms for the sheet and the transducers are mounted on the test tank structure. Adjustment is provided for different sizes of sheets to be inspected. All automation and electronic elements are unified in one cabinet, in the upper panel of which the controls are installed. The electric scheme of the installation is described, with some simplifications but in considerable detail. The receiver and transmitter each contain ten piezoelectric transducers, 10 mm in diameter and 1 mm thick. The frequency of ultrasonic vibrations is 2.8 megacycles/sec. The circular quartz plates are arranged in two vertical rows, overlapping 40%, permitting the inspection of a 50 mm wide strip during each horizontal path. The resolving capacity of the installation was determined by examining sheet specimens with artificial defects, represented by flat bottom drillings, not fully penetrating the sheet and closed by plugs of the same material. As a result of these tests, it has been established that the minimum size of a defect detectable by the apparatus is 2.5-3 mm^2. However, this size depends on

ACCESSION NR: AT4013980 ENCLOSURE: 01

Fig. 1. Schematic illustration of ultrasonic inspection equipment.

1 — metal sheet under inspection
2 — test tank with water
3 — receiver
4 — transmitter (sound generator)
5 — defect recorder
6 — sonic signal
7 — light signal
8 — stopping device
9 — electron beam indicator for accurate locating of defect
10 — electric vibration generators
11 — amplifier



Card 4/4

SHCHUKIN, A.I., inzh.

Using the capacitance method for measuring the moisture content of peat. Torf.prom. 40 no.1:20-22 '63. (MIRA 16:5)

1. Smolenskiy filial Nauchno-issledovatel'skogo instituta teploenergeticheskogo priborostroyeniya.
(Peat) (Moisture--Measurement)

MONEV, Yuriy Ivanovich; SHCHUKIN, A.I., red.

[Transistorized pulse devices for controlling electric motors and electromagnetic mechanisms] Tranzistornye impulsnye ustroistva upravleniia elektrodvigateliami i elektromagnitnymi mekhanizmami. Moskva, Energiia, 1967. 112 p. (Biblioteka po avtomatike, no. 2)

(TRA 28:1)

[illegible], [illegible] Ivanovich (deceased); PYRKIN, M.M., ed.

[Automatic control of electric drives] Avtomaticheskoe upravlenie elektroprivodami. Moskva, Energiia, 1964. 48[illegible] p. (MIRA 17:9)

[illegible]

[illegible]-meter plating [illegible] a [illegible] : [illegible]ensation of the earth.
[illegible]-[illegible] no.[illegible] [illegible] (1[illegible]. (MIRA 17:11)

[illegible]

[illegible] for post. [illegible]tern. [illegible]kom. [illegible] nauch.-issl. inst nauch.-i tekh.inform. 17 no. 5, [illegible] (MIRA 17:6)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548920011-0"

VALAROVICH, M.P. (Moskva); SHCHUKIN, A.I. (Moskva)

Use of nuclear magnetic resonance in determining the moisture content of disperse systems and the properties of bound water. Koll. zhur. 26 no.3:386-390 My-Je '64.

(MIRA 17:9)

VOLAROVICH, M.P.; SHCHUKIN, A.I.

Use of the nuclear magnetic resonance method for determining the moisture of peat. Koll.zhur. 27 no.3:474-475 My-Je '65. (MIRA 18:12)

1. Smolenskiy filial Nauchno-issledovatel'skogo instituta teploenergeticheskogo priborostroyeniya. Submitted Nov. 12, 1964.

Name: SHCHUKIN, A.N.

Author of book, "Propagation Ultra-short Waves " This book contains the following: physical phenomena of ultra-short wave propagation, direct communication, ground wave, short skip, etc. This book is specifically designed for students at technical institutes.

REF: Radio Front #19, p.63, 1938

SHCHUKIN, A.N.

621.395.645 3475

Non-Stationary Processes in Tuned and Band-Pass Amplifiers. A. N. Shchukin (*Bull. Acad. Sci. U.R.S.S., ser. phys.*, 1946, Vol. 10, No. 1, pp. 47-48. In Russian.) A mathematical investigation of the processes taking place in amplifiers when a constant or an alternating e.m.f. is suddenly applied.

SHCHUKIN, A.N.

3648

A Method for preventing Impulse Interference with Radio Reception. V. N. Shchukin [illegible] Vol. [illegible] The receiver is a [illegible] wide band unit, followed by [illegible] which in turn is followed [illegible] The operation of the [illegible] depends on [illegible] of the [illegible] voltage at the output of the [illegible] [illegible] the narrow band [illegible]

SHCHUKIN, A. N.

"A. S. Popov and Contemporary Radio Engineering."

Radio, No 5, 1949. Corr. Memb. Acad. Sci. USSR, -1949-.

AID P - 4397

Subject : USSR/Radio

Card 1/1 Pub. 89 - 6/11

Author : Shchukin, A.

Title : Pocket-size radio with triode transistor

Periodical : Radio, 3, 40-42, Mr 1956

Abstract : The design of a pocket size superheterodyne receiver set mounted on triodes transistor and operating on a 20 v battery with a built-in magnetic antenna is discussed in great detail. Data on coils are given in a table. Seven diagrams.

Institution : None

Submitted : No date

PHASE I BOOK EXPLOITATION SOV/4080

Shchukin, A.N.

Teoriya veroyatnostey i eksperimental'noye opredeleniye kharakteristik slozhnykh ob"yektov (Theory of Probability and Experimental Determination of the Characteristics of Complex Objects) Moscow, Gosenergoizdat, 1959. 111 p. Errata slip inserted. 8,000 copies printed.

Ed.: V.I. Shamshur; Tech. Ed.: N.I. Borunov.

PURPOSE: This book is intended for students taking advanced courses in schools of higher technical education, and for engineers and scientific workers.

COVERAGE: The book gives a brief account of the theory of probability, and studies problems pertaining to quality control, reliability, and efficiency of various instruments and devices. The approach to a solution of these problems is illustrated by a number of examples. The author thanks F.V. Lukin, G.S. Narimanov, G.A. Tyulin and V.P. Shishov. There are 22 references: 21 Soviet and 1 English.

Card 1/3

TABLE OF CONTENTS:

Preface 3

I. Introduction. Fundamental theorems from the theory of probability. Mean and mean-square values of random values. Dispersion 5

II. The binomial law of probabilities distribution and its characteristics 15

III. Continuous distribution of probabilities. Probability density. Differential and integral curves of the distribution of probabilities. Mean and mean square values and the dispersion of a random value in a continuous distribution 22

IV. Some examples of applying the theory of probability. "Reliability" of complex objects. Quality control problems. Reliability of component parts and the whole unit. Life (of a machine) and depreciation 29

V. Fundamental laws of the distribution of probabilities. Poisson's law. Integral convolution 45

VI. Characteristic functions. Normal law of the distribution of probabilities 53

VII. Substitution of variables in distribution functions. Rayleigh's distribution. Distribution functions of several variables. Elliptic distribution. Spherical and ellipsoidal distribution 64

VIII. Selection of distribution functions on the basis of experimental data. Confidence limits and confidence probabilities 78

Appendix: Tables of some functions 95

Bibliography 112

AVAILABLE: Library of Congress

Card 3/3

AC/rlm/lsb
8-17-60

S/194/62/000/004/096/105
D201/D308

6.9400

AUTHOR: Shchukin, A. N.

TITLE: The effect of fluctuation noise on the accuracy of determining the coordinates by radio engineering methods

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 4, 1962, abstract 4-7-14n (V sb. 100 let so dnya rozhd. A. S. Popova, M., AN SSSR, 1960, 5-28)

TEXT: A simplified and physically clear analysis of the effect of interference and of useful signal fluctuations on the accuracy of determining angular coordinates and distance by radio engineering methods is given. Mathematically simple approximations, relating the accuracy of coordinate determination to the energy of S, energy of fluctuations and to the parameters of the radio engineering system, are also derived. It is assumed that the strength S is substantially greater than the average level of fluctuating noise. The well-known relationships are given for the signal and fluctua-

Card 1/2

tion noise passing through a typical receiving installation with an amplitude detector and the so-called homodyne detector. It is assumed that such a receiver is used in all coordinate measuring arrangements. General formulas for the m.s. error in a given direction (of angular coordinates) are obtained, and are subsequently applied to two particular cases, when direction is determined by the equisignal zone and phase methods. Mean square errors in distance evaluation are determined for continuous and pulse signal methods. The results obtained are applied to the determination of probability that the object is situated in a given volume of space; this is achieved utilizing the fact that errors in the measurements of direction and of distance obey the normal law of distributions. Errors in determining the displacement velocity of the object are found, the errors being due to the presence of fluctuation noise. The effect of fluctuation of S on the accuracy of coordinate determination is estimated. /Abstracter's note: Complete translation./

PHASE I BOOK EXPLOITATION SOV/5838

Shchukin, A.N.

Dinamicheskiye i flyuktuatsionnyye oshibki upravlyayemykh ob"yektov (Dynamic and Fluctuation Errors of Controlled Objects) Moscow, Izd-vo "Sovetskoye radio," 1961. 213 p. 7000 copies printed.

Ed.: N.G. Zabolotskiy; Tech. Ed.: B.V. Smurov.

PURPOSE: This book is intended for engineers interested in guiding systems and for students.

COVERAGE: The book determines the physical nature, character, and values of the deviation of guided objects from their predetermined ideal trajectory. Guided objects together with the complexity of the guiding media are considered as single systems possessing a limited number of parameters and characterizing the number of errors at various conditions of motion. The book also presents a qualitative evaluation of basic factors influencing the precision of guided objects. Physical processes occurring in systems containing guided objects are explained No personalities are mentioned. There are 13 references, all Soviet.

Card [redacted]

ARTSIMOVICH, L.A., akademik; KELDYSH, M.V., akademik; KAPITSA, P.L., akademik; VUL, B.M.; VERESHCHAGIN, L.F.; PISTOL'KORS, A.A.; SHCHUKIN, A.N., akademik; SKOBEL'TSYN, D.V., akademik; ALEKSANDROV, A.P., akademik; AMBARTSUMYAN, V.A., akademik; ZEL'DOVICH, Ya.B.; SEMENOV, N.N., akademik; KOTEL'NIKOV, V.A., akademik; LIFSHITS, I.M.; VEKSLER, V.I., akademik; GINZBURG, V.L.; MILLIONSHCHIKOV, M.D., akademik

Some problems in the development of modern physics; discussion of the work of the Department of General and Applied Physics. Vest. AN SSSR 35 no.2:3-46 F '65. (MIRA 18:3)

1. Chleny-korrespondenty AN SSSR (for Vul, Vereshchagin, Pistol'kors, Lifshits, Ginzburg).

SHCHUKIN, A.M., dotsent.

Complete mechanization of haulage in the alkali shop of a leather factory. Leg.prom. 14 no.10:5-10 O '54. (MLRA 7:11)
(Leather industry)

ANDREYEV, Yevgeniy Timofeyevich; SHCHUKIN, Aleksandr Semenovich; SAUKHAT, I.G., redaktor; KEL'NIK, V.P. redaktor; KOVALENKO, N.I., tekhnicheskiy redaktor;

[The miner] Prokhodchik gornykh vyrabotok; uchebnoe posobie dlia shkol i kursov masterov gornorudnykh predpriiatii. Sverdlovsk, Gos. nzuhcno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, Sverdlovskoe otd-nie, 1955. 320 p. (MIRA 9:4)
(Mining engineering)

SHCHUKIN, A. S.

SHCHUKIN, A. S. -- "The Selection and Investigation of Rational Types of Supports for Basic Horizontal Mine Work under the Conditions of 'Puchashchiye' Rock in the Chelyabinsk Brown-Coal Basin." Min Higher Education USSR, Sverdlovsk Mining Inst imeni V. V. Vakhrushev. Sverdlovsk, 1956.
(Dissertation for the Degree of Candidate in Technical Sciences).

SO: Knizhnaya Letopis', No 9, 1956

SHCHUKIN, A.S., kand. tekhn.nauk.

Determining rock pressure in adit-type excavations in bound soft and hard monolithic formations. Izv. vys. ucheb. zav.; gor. zhur. no.2:28-36 '58. (MIRA 11:5)

1. Sverdlovskiy gornyy institut.
(Earth movements)

SHCHUKIN, A.S., kand.tekhn.nauk

Comparative technical efficiency of various types of drift lining. Izv.vys.ucheb.zav.; gor.zhur. no.9:28-37 '58. (MIRA 12:6)

1. Sverdlovskiy gornyy institut.
(Mine timbering)

SHCHUKIN, A.S., kand.tekhn.nauk

Modeling rock freezing processes. Izv.vys.ucheb.zav.; gor. zhur. no.10:32-37 '58. (MIRA 12:8)

1. Sverdlovskiy gornyy institut.
(Geological modeling) (Frozen ground)

FEDUKOV, S..., prof., doktor tekhn.nauk; SHCHUKIN, A.S., kand.tekhn.nauk; A.DELKIN, Ye..., kand.tekhn.nauk; GORBUNOV, B.F., starshiy prepodavatel'; SMIRNOV, V.G., assistent; RYCHKOV, A.I., assistent; GALEV, B..., assistent

Qualifications of a mine building engineer. Shakht stroi. 5 no.7:6-7 Jl '61. (MIRA 15:6)

1. ...vsesoyuznyy zaochnyy institut.
(Mining engineering)

ALEKSEYEV, V.L., inzh.; POLOVOV, B.D., inzh.; SHCHUKIN, A.S., kand. tekhn. nauk

Construction of a watertight barrier in a shaft by the underwater concreting method. Shakht. stroi. 8 no.5:25-28 My'64 (MIRA 17:7)

1. Trest Boksitstroy (for Alekseyev). 2. Sverdlovskiy gornyy institut (for Shchukin).

ALEKSEYEV, V.L., inzh.; POLOVOV, B.D., inzh.; SHCHUKIN, A.S., kand.tekhn.nauk

Ground cementation from the working face during vertical shaft sinking. Shakht.stroi. 8 no.11:25 N '64. (MIRA 18:1)

1. Trest Boksitstroy (for Alekseyev). 2. Sverdlovskiy gornyy institut (for Shchukin).

SHCHUKIN, Anatoliy Yefimovich; DOBRIN, K.S., red.; SHCHETININ, V.D., red.; ROMANOVA, N.I., tekhn.red.

[Industry of the German Democratic Republic; its development and place in the socialist division of labor] Promyshlennost' Germanskoi Demokraticheskoi Respubliki; ee razvitie i mesto v sotsialisticheskom razdelenii truda. Moskva, Izd-vo IMO, 1959. 118 p. (MIRA 13:1)

(Germany, East--Industries)
(Germany, East--Foreign economic relations)

KHOKHLOV, I., instruktor; SHCHUKIN, B., starshiy inzh.

High-school education for every miner. Sov. shakht. 11 no.3: 36-37 Mr '62. (MIRA 15:5)

1. Otdel shkol Donetskogo oblastnogo komiteta Kommunisticheskoy partii Ukrainy (for Khokhlov). 2. Otdel kadrov i uchebnykh zavedeniy Donetskogo sovnarkhoza (for Shchukin).
(Donetsk Province--Coal miners--Education and training)

SHCHUKIN, B. M

95

S/089/62/013/006/019/027
B102/B186

AUTHORS: G. T. and M. R.

TITLE: Nauchnaya konferentsiya Moskovskogo inzhenerno-fizicheskogo instituta (Scientific Conference of the Moscow Engineering Physics Institute) 1962

PERIODICAL: Atomnaya energiya, v. 13, no. 6, 1962, 603 - 606

TEXT: The annual conference took place in May 1962 with more than 400 delegates participating. A review is given of these lectures that are assumed to be of interest for the readers of Atomnaya energiya. They are following: A. I. Leypunskiy, future of fast reactors; A. A. Vasil'yev, design of accelerators for superhigh energies; I. Ya. Pomeranchuk, analyticity, unitarity, and asymptotic behavior of strong interactions at high energies; A. B. Migdal, phenomenological theory for the many-body problem; Yu. D. Fiveyskiy, deceleration of medium-energy antiprotons in matter; Yu. M. Kogan, Ya. A. Iosilevskiy, theory of the Mössbauer effect; M. I. Ryazanov, theory of ionization losses in nonhomogeneous medium; Yu. B. Ivanov, A. A. Rukhadze, h-f conductivity of subcritical plasma;

Card 1/4

18

Nauchnaya konferentsiya...

S/089/62/013/006/019/027
B102/B186

B. V. Pletnev, F. M. Spevakov, A. M. Stolov, supply of synchrotron electromagnets; G. L. Saksaganskiy, V. Ya. Moiseyev, flanged separable heat-resistant junctions of great diameter; B. G. Klimov, A. S. Vayradyan, V. P. Yevseyev, I. B. Mikhaylov, I. N. Afonskiy, B. N. Belov, Ye. I. Mamonov, B. I. Strelkov, Ye. V. Sedykh, B. A. Shchukin, optical principles in computer engineering technique; R. S. Nakhmanson, N. M. Roysin, M. E. Mostovlyanskiy, Yu. A. Volkov, electronics; Ye. L. Sulim, transmitter for electromagnetic flow-meter, V. M. Ovsyankin, V. M. Plushnikov, application of varicondes for transforming d.c. into a.c.

Card 4/4

L 63255-65 EWT(d)/EPF(n)-2/EWP(v)/EWP(k)/EWP(h)/EWP(1) Po-4/Pq-4/Pf-4/Pg-4/Pae-2/
Pu-4/Pk-4/P1-4 IJP(c) WW/BC

ACCESSION NR: AP5012882 UR/0280/65/000/002/0123/0128 66

AUTHOR: Aleksandrov, V. M. (Moscow); Batkov, A. M. (Moscow); Staroverov, A. N. (Moscow); Shchukin, B. A. (Moscow)

TITLE: Determining the mathematical expectation and dispersion of the response of a multivariable nonlinear time-dependent system by computers

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 2, 1965, 123-128

TOPIC TAGS: automatic control, automatic control design, automatic control system, automatic control theory

ABSTRACT: The accuracy is considered of an automatic-control system describable by these normal differential equations:

$$\frac{dY}{dt} = F(t, Y) + B(t)f, \qquad Y(0) = C, \qquad (1.1)$$

where $Y = (y_i)$ is the column vector (system output); $F(t, Y) = (F_i(t, Y))$ is a vector nonlinear function; $B(t) = (\beta_{ij})$ is a variable rectangular matrix $(n \times m)$; $f(t) = (f_j)$ is the column vector representing the disturbance (white noise with independent components); $Y(0) = C$ is a random vector of initial conditions

Card 1/2

L 63255-65

ACCESSION NR: AP5012882

noncorrelated to the disturbance vector. A method is suggested for setting up nonlinear differential equations (2.17) whose solution gives a vector of mathematical expectation and a dispersion matrix of the output signal in time; the output process is assumed to be close to normal. The method is claimed to be simpler in computations than the methods of statistical linearization with successive approximations or canonical random functions. If the nonlinear system (1.1) contains only single-variable nonlinearities, the expectation-and-dispersion equations (2.17) can be integrated on an analog computer. Generally, the method requires the use of a digital computer. For stationary conditions, the right-hand member of (2.17) is equal to zero, and the problem is reduced to solving a set of nonlinear algebraic equations. Orig. art. has: 1 figure and 42 formulas.

ASSOCIATION: none

SUBMITTED: 13Feb64 ENCL: 00 SUB CODE: DP, IE

NO REF SOV: 003 OTHER: 002

Card 2/2

L 34944-65 EWT(d)/EWP(1) Po-4/Pq-4/Pg-4/Pk-4/Pl-4 IJP(c) BC

ACCESSION NR: AP5008322 S/0103/65/026/003/0492/0499

AUTHOR: Aleksandrov, V. M. (Moscow); Batkov, A. M. (Moscow); Staroverov, A. N. (Moscow); Shchukin, B. A. (Moscow)

42
0

TITLE: Investigation of the accuracy of nonlinear, nonstationary systems by means of the statistical linearization method

SOURCE: Avtomatika i telemekhanika, v. 26, no. 3, 1965, 492-499

TOPIC TAGS: automatic control, nonlinear, nonstationary control system, statistical linearization method

ABSTRACT: A study is made of a control system whose performance is described by the system of nonlinear differential equations written in normal vector form

$$\frac{dY(t)}{dt} = F(t, Y) + B(t)f(t), \quad Y(0) = C \qquad (1)$$

where the components of the vector Y(t) represent processes at the output of the system, components of the vector f(t) represent independent random processes of white noise type at the input of the system, F(t, Y) is an inertia-free, nonlinear

Card 1/2

L 34944-65

ACCESSION NR: AP5008322 0

transformation vector, C is a vector of normally distributed initial conditions, and B(t) is an m + n matrix of variable coefficients. To determine the accuracy of system (1), the variation in time of the mathematical expectation vector $\overline{Y}(t)$ and the variance vector $\theta(t)$ of the vector random process Y(t) are sought. It is indicated that this problem has a simple solution when the transformation F(t, Y) is linear. System (1) is written for this case and a system of differential equations is derived from which $\overline{Y}(t)$ and $\theta(t)$ can be solved. It is shown how, using the method of statistical linearization (approximation of the nonlinear transformation F(t, Y) by a certain form of linear transformation Z(t)), system (1) can be reduced to the form derived for the linear case and how a system of nonlinear differential equations for direct determination of $\overline{Y}(t)$ and $\theta(t)$ can be constructed which is amenable to solution on a digital computer. It is stressed that the method presented is more economical and has other advantages as compared with the methods presented by other authors. Orig. art. has: 29 formulas. [LK]

ASSOCIATION: none

SUBMITTED: 20Mar64 ENCL: 00 SUB CODE: IE,MA

NO REF SOV: 003 OTHER: 001 ATD PRESS:3211

Card 2/2

SHCHUKIN, B.D., inzhener.

Using storage batteries as starters in temporary substations.
Elek.sta. 25 no.5:47 My '54. (MLRA 7:6)
(Storage batteries) (Electric substations)

621.316.57.064.25

1924. UTILIZATION OF PNEUMATIC DRIVES FOR THE OPERATION OF OIL CIRCUIT-BREAKERS. B.D.Shchukin. Elekt. Stantsii, 1956, No. 6, 43-4. In Russian.

These drives do not require large station batteries. When compressed-air cylinders (120 at) or individual small compressors are used with each circuit-breaker they would not even require a distribution system for the compressed air. Introduction of this method in 110 and 220 kV substations is advocated. F.Busemann

MUSATOV, T.P. inzh.; SHCHUKIN, B.D.; FIKSMAN, S.I. (Odessa)
GERSHKOVICH, S.F.; SHNELL', R.V.; DODIN, Ya.I.; ZEYLIDSON, Ye.D.

Problem of automation and remote control in industrial substations. Prom.energ. 12 no.8:1-7 Ag '57. (MIRA 10:10)

1.Stalinskiy setevoy rayon Donbassenergo (for Musatov). 2.Gidroproyekt, g. Kuybyshev (for Shchukin). 3.Novo-Kemerovskiy khimkombinat (for Gershkovich). 4.Novosibirskoye otdeleniye Gosudarstvennogo proyektnogo instituta Elektroproyekt (for Shnell'). 5.Leninogorskiy polimetallicheskiy kombinat (for Dodin). 6.Tekhnicheskoye upravleniye Ministerstva elektrostantsiy (for Zeylidzon).

(Electric power) (Automatic control)

YERMILOV, A.A., inzh; SEULIN, N.A., inzh; CHIZHISHIN, P.L., inzh.; CHEPELE, Yu.M., inzh.; MUSATOV, T.P., inzh.; FEDOROV, A.A., kand.tekhn.nauk; YAROSHETSKIY, L.M., inzh.; GOL'DENBLAT, B.I., inzh.; KUDRYASHOV, S.A., inzh.; ZAKHAROV, N.N., inzh.; SHCHUKIN, B.D., inzh.

Improving planning of industrial power supply. Prom. energ. 13 no.7: 18-29 Jl '58. (MIRA 11:10)

1. Tyazhpromelektroproyekt. (for Yermilov). 2. Zhemproyektas, g. Kaunas (for Chepele). Donbassenergo (for Musatov). 4. Moskovskiy energoticheskiy institut (for Fedorov). 5. Uzgiprovodkhoz. g. Tashkent (for Yaroshetskiy). 6. Proyektnyy institut Ministerstva stroitel'stva USSR, Odessa (for Gol'denblat). 7. Elektroproyekt, g. Kuybyshev (for Kudryashov). 8. Gosradioelektronika (for Zakharov). 9. Gidroproyekt, g. Kuybyshev (for Shchukin).

(Electric power)

AUTHOR: Shchukin, B.D. (Engineer) SOV/94-58-9-6/30

TITLE: 6-10 kV transformers with built in change-over switches (Transformatory 6-10 kv so vstroyennymi pereklyuchatelyami)

PERIODICAL: Promyshlennaya Energetika, 1958, No.9. pp. 18-19

ABSTRACT: The power supply system layout used at an oil refinery built in 1945 is illustrated schematically in Fig.1. This layout is based on the use of imported transformers with built-in change-over switches connected through trifurcating boxes as shown in Fig.2. The transformers are hermetically sealed and filled with pyranol. There is a two-position change-over switch on the 6 kV side and an interlocked automatic circuit breaker on the 400 V side. When transformers of this construction are available dual supply throughout the refinery is very easily arranged. Such transformers could also be used in urban supply systems and many other cases. If Soviet transformers of this kind were made, package sub-stations could be made more cheaply. There are 3 figures.

ASSOCIATION: Gidroproyekt, Kuybyshev

1. Transformers--Design 2. Transformers--Control systems
3. Transfer switches--Applications

Card 1/1

SHCHUKIN, B.D.

Simplified method for calculating short-circuit currents in 6 to 10 kv. systems. Prom. energ. 15 no.7:39-41 Jl '60. (MIRA 15:1)

1. Vsesoyuznyy proyektno-izyskatel'skiy i nauchno-issledovatel'skiy institut im. S.Ya. Zhuk Ministerstva stroitel'stva elektrostantsiy SSSR, Kuybyshev.
(Electric power distribution)

ACC NR: AP7006047

single-cycle MA; load resistance; conversion factor of the measuring device. The amplified DC signal from the measuring device is utilized as a control signal and conveyed in this capacity to the excitation winding of the generator in the motor-generator system. Such monovibrator-controlled push-pull MA may serve as meters of the deviation of motor RPM from the established value in automatic control systems designed on the frequency principle. Orig. art. has: 5 figures and 17 formulas. [JPRS: 39,568]

SUB CODE: 09

Card 2/2